#7
88
6/6/03

Certificate of Facsimile
I hereby certify that this correspondence is being transmitted by facsimile to (703) 872-9327 to The United States Patent and Trademark Office on JUNE 3, 2003
(Date of Deposit)

FRANK C. NICHOLAS (33,983)
Name of applicant, assignee or registered representative

Signature

JUNE 3, 2003
Date of Signature

PATENT-APPEAL
Case No. DP-304581
(7500/66)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of:

THOMAS A BAUDENDISTEL, ET AL.

Serial No.: 09/915,631

Filed: JULY 26, 2001

Title: CAPACITIVE DISPLACEMENT SENSOR

Examiner: RODRIGUEZ, P.

Group Art Unit: 3683

APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is an appeal from the final rejection of claims 1-20 in the Office Action mailed February 3, 2003.

REAL PARTY IN INTEREST

The real party in interest is Delphi Technologies, Inc.

RELATED APPEALS AND INTERFERENCES

No other appeals or interferences are known which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

STATUS OF CLAIMS

This application was filed July 26, 2001 with claims 1-20. Independent claims 1, 10 and 19 were amended, but were finally rejected on new grounds. Claims 1-20 as amended (reproduced in Appendix A) are the subject of the present appeal.

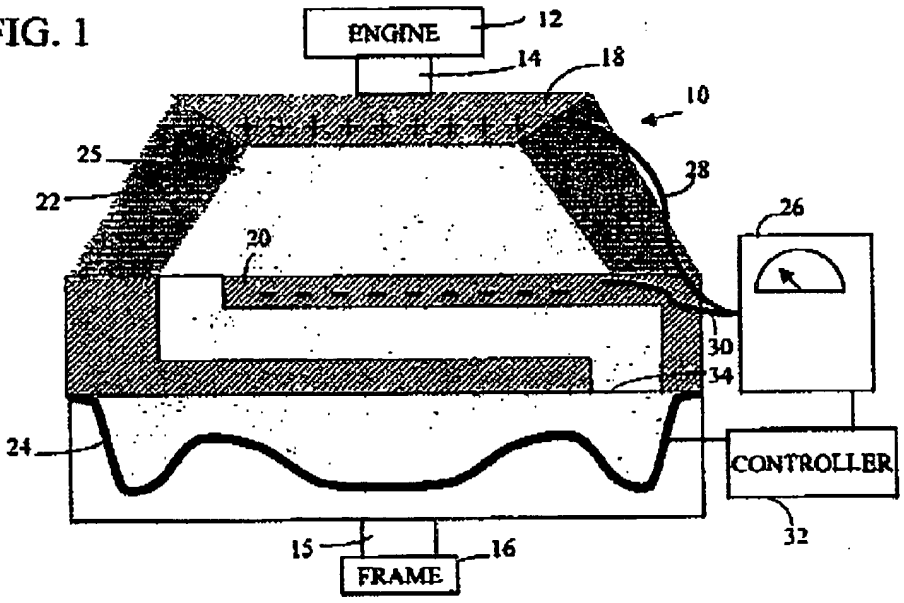
STATUS OF AMENDMENTS

There are no unentered amendments.

SUMMARY OF INVENTION

The invention is a mount for a powertrain component of a motor vehicle. The mount comprises a first plate 18 connected to one of the powertrain component 12 or a frame 16 of the vehicle, and a second plate 20 connected to the other of the powertrain component 12 or the frame 16 of the vehicle. A controller 32 controls the mount based on the difference between actual and expected values of the capacitance between the plates:

FIG. 1



Independent claims 1 and 10 recite that the second plate is "connected to the other of the powertrain component or the frame." Independent claim 19 recites that the first plate is "fixed relative to one of the powertrain component or a frame."

ISSUES

Claims 1-20 were finally rejected under §102(b) over U.S. Patent No. 5,726,886 to Yamakado et al. (Appendix B). This reference teaches an acceleration differential sensor [shown in FIG. 4 below] which, according to the Examiner, has a first plate 41 connected to a powertrain component, a second plate 42, and means for measuring a capacitance between the plates:

U.S. Patent Mar. 10, 1998 Sheet 4 of 22 5,726,886

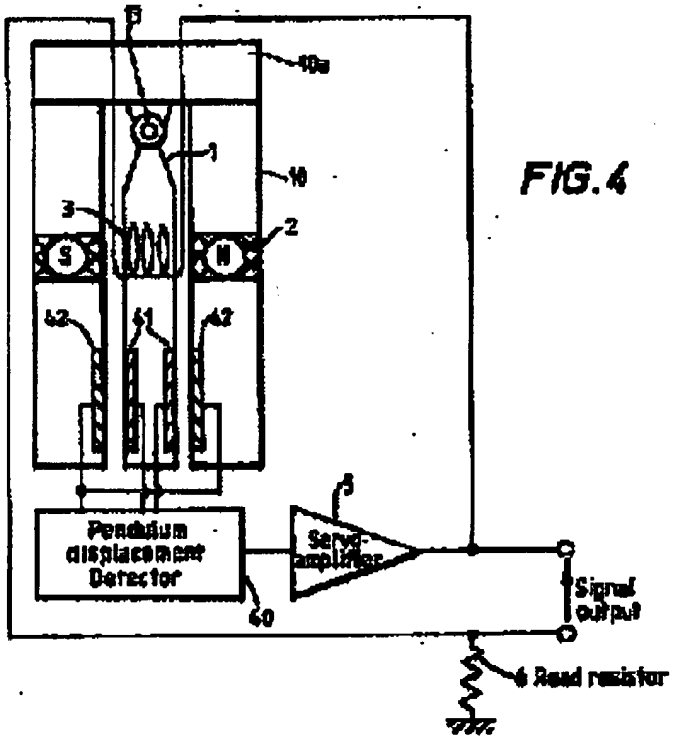


FIG. 4

The Examiner maintains that the second plate 42 is "connected to a frame of a motor vehicle (as suggested by column 14 lines 57 et al)." The first issue in this appeal is whether the plate 42 of Yamakado et al. '886 is connected to a frame of a motor vehicle.

The Examiner also maintains that the first plate 41 "would be fixed relative to the powertrain equivalent component 161 [shown in FIG. 17 below]." The second issue in this appeal is whether the plate 41 of Yamakado et al. '886 is fixed relative to the component 161.

GROUPING OF CLAIMS

Claims 1, 10 and 19 are the independent claims involved in the appeal. The dependent claims stand or fall with their respective independent claim.

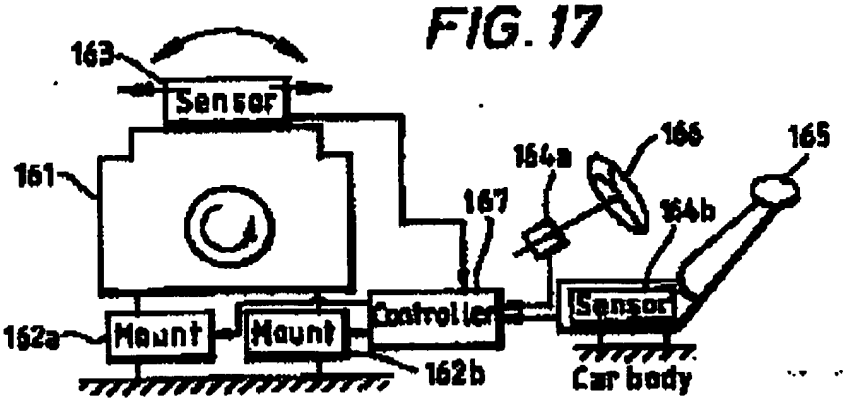
ARGUMENT

A. The Plate 42 Of Yamakado et al. '886 Is Not Connected To A Frame

The Examiner asserts that the second plate 42 of Yamakado et al. '886 is "connected to a frame of a motor vehicle (as suggested by column 14 lines 57 et al)." Office Action mailed February 3, 2003 at page 2. This assertion is clearly in error:

> FIGS. 17 to 20 show another application of this invention. FIG. 17 [reproduced below] shows a configuration in which acceleration differential sensors are used to control ride comfort in the automobile and to reduce engine vibration. In this case, the automobile is assumed to have a variable engine mounting mechanism. In this application of the present invention, an acceleration differential sensor 163 is mounted on the engine 161, the engine being supported by engine mounts 162a and 162b. Two further acceleration differential sensors 164a and 164b are mounted on the steering wheel 166 and in the seat 165 for the driver. The acceleration differential sensors 163, 164a, 164b supply signals to a controller 167 which controls the engine mounts 162a, 162b. Other parts of the configuration may be the same as those in the arrangement shown in FIG. 16. An acceleration value can be derived from the voltage across resistor 6 in the sensor of FIG. 4, and the differential of acceleration value obtained from the voltage across coil 3.
>
> Appendix B at column 14, line 57 through column 15, line 7 (emphasis added).

FIG. 17



The sensor 163 is clearly separate from the mounts 162a and 162b, and just as clearly is mounted "on the engine." There is no teaching that any part of the sensor 163 is connected to the frame of the vehicle, nor even any "suggestion" of such.

B. The Plate 41 Of Yamakado et al. '886 Is Not Fixed Relative To A Powertrain Component or a Frame

Claim 19 recites that the first plate is "fixed relative to the other of the powertrain component or the frame." The Examiner asserts[1] that Figure 17 shows the plate 41 "would be fixed relative to the powertrain equivalent 161." Office Action mailed February 3, 2003 at page 3.

Applicants are unsure what the Examiner means by "would be fixed," but it is plain error to assert that the plate 41 is fixed relative to the component 161. The plate 41 is mounted on a pendulum 1:

[1] The Examiner's treatment of claim 19 says to "see Claims 1, 2, 8, 9, and 10." None of those claims recites that the first plate is fixed, however. Applicants therefore refer the Board to the Examiner's treatment of claim 4.

FIG. 4 shows the overall configuration of a first embodiment of an acceleration differential sensor 111 or 112 which may be used in the example of an automobile control system shown in FIG. 3. This acceleration differential sensor, as shown in FIG. 4, consists of a pendulum 1 attached to a casing 10a using a joint 13 providing one degree of freedom of movement (i.e. the pendulum 1 is constrained to move in one plane only). A coil 3 is fixed to the pendulum 1, and a movable electrode 41 is attached at or adjacent the free end (moving direction) of the pendulum 1.

Appendix B at column 7, lines 8-17.

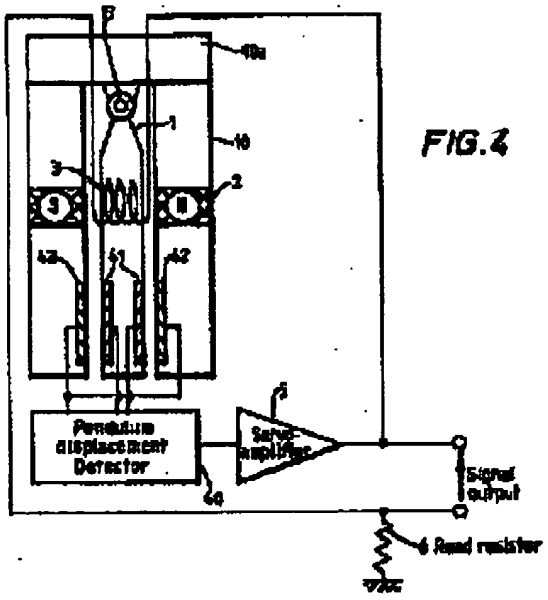


FIG. 4

SUMMARY

The Examiner maintains that the only reference shows things that it plainly does not. Yamakado et al. '886 neither shows nor suggests the invention recited in the claims, and the final rejection of claims 1-20 should be reversed.

Dated: June 3, 2003

Respectfully submitted,
THOMAS A. BAUDENDISTEL, *et al.*

DELPHI TECHNOLOGIES, INC.
Legal Staff
PO Box 5052
Mail Code: 480-410-202
Troy, Michigan 48007
Phone: (248) 813-1235
Fax: (248) 813-1211

Scott A. McBain
Registration No. 37,181
Attorney for Applicants

CARDINAL LAW GROUP
Suite 2000
1603 Orrington Avenue
Evanston, Illinois 60201
Phone: (847) 905-7111
Fax: (847) 905-7113

Frank C. Nicholas
Registration No. 33,983
Attorney for Applicants

Enclosures: Appendix A - Claims 1-20
Appendix B - U.S. Patent No. 5,726,886 to Yamakado et al.
Three copies of Brief
Check - $ .00

APPENDIX A

1. A mount for a powertrain component of a motor vehicle, the mount comprising:

a first plate connected to one of the powertrain component or a frame of the motor vehicle;

a second plate connected to the other of the powertrain component or the frame of the motor vehicle; and

means for measuring a capacitance between the first plate and the second plate to derive an actual value, comparing the actual value with an expected value, and adjusting damping characteristics of the mount as a function of a difference between the actual value and the expected value.

2. The mount of claim 1 wherein the means for adjusting damping characteristics comprises a controller connected to the first and second plates.

3. The mount of claim 1 wherein the means for adjusting damping characteristics comprises a capacitance-to-voltage device connected to the first and second plates.

4. The mount of claim 1 wherein the first plate is fixed relative to the one of the powertrain component or the frame of the motor vehicle.

5. The mount of claim 4 wherein the second plate is fixed relative to the other of the powertrain component or the frame of the motor vehicle.

6. The mount of claim 1 wherein the means for adjusting damping characteristics comprises means for adjusting damping characteristics of the mount as a function of the change in capacitance between the first plate and the second plate.

7. The mount of claim 1 wherein the powertrain component comprises an engine of the motor vehicle.

8. The mount of claim 1 wherein the first plate is positively charged.

9. The mount of claim 1 wherein the second plate is negatively charged.

10. A mount for a powertrain component of a motor vehicle, the mount comprising:

a first plate connected to one of the powertrain component or a frame of the motor vehicle;

a second plate connected to the other of the powertrain component or the frame of the motor vehicle; and

a controller connected to the first plate and to the second plate, the controller generating a signal indicative of a difference between an actual value of the capacitance between the first plate and the second plate and an expected value of the capacitance between the first plate and the second plate.

11. The mount of claim 10 wherein the controller is operative to change damping characteristics of the mount in response to relative movement of the plates.

12. The mount of claim 10 wherein the first plate is fixed relative to the one of the powertrain component or the frame of the motor vehicle.

13. The mount of claim 12 wherein the second plate is fixed relative to the other of the powertrain component or the frame of the motor vehicle.

14. The mount of claim 10 wherein the controller measures the change in capacitance between the first plate and the second plate.

15. The mount of claim 10 further comprising:

a capacitance-to-voltage device connected to the first and second plates and connected to the controller.

16. The mount of claim 10 wherein the powertrain component comprises an engine of the motor vehicle.

17. The mount of claim 10 wherein the first plate is positively charged.

18. The mount of claim 10 wherein the second plate is negatively charged.

19. A system for controlling the damping characteristics of a motor vehicle powertrain mount, the system comprising:

a first, positively charged plate fixed relative to one of the powertrain component or a frame of the motor vehicle;

a second, negatively charged plate fixed relative to the other of the powertrain component or the frame of the motor vehicle; and

a controller connected to the first plate and to the second plate, the controller adjusting the damping characteristics of the mount as a function of a difference between an actual value of the capacitance between the first plate and the second plate and an expected value of the capacitance between the first and second plates.

20. The mount of claim 19 wherein the controller adjusts the damping characteristics of the mount as a function of the change in capacitance between the first plate and the second plate.